



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,098	12/31/2003	Robert Knauerhase	5038-328	6512
32231 7590 05/11/2009 MARGER JOHNSON & MCCOLLOM, P.C. - Intel 210 SW MORRISON STREET, SUITE 400 PORTLAND, OR 97204				
EXAMINER				
LAI, MICHAEL C				
ART UNIT		PAPER NUMBER		
2457				
MAIL DATE		DELIVERY MODE		
05/11/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



# Office Action Summary

**Application No.**

10/754,098

**Applicant(s)**

KNAUERHASE ET AL.

**Examiner**

MICHAEL C. LAI

**Art Unit**

2457

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24, 26-35 and 37-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24, 26-35 and 37-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_



### **DETAILED ACTION**

1. This office action is responsive to amendment filed on 3/30/2009.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/30/2009 has been entered.

#### ***Response to Amendment***

3. The examiner has acknowledged the new claims 42-49. Claims 1-24, 26-35, and 37-49 are pending.

#### ***Response to Arguments***

4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Objections***

5. Claim 49 is objected to because of the following informalities: In line 1, "A service apparatus" should be "An article".

#### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.



7. Claims 16 and 27 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. "If the requested service is not in the list of services" is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See MPEP § 2172.01 and *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). This step is essential, see Figure 5A steps 512 and 515 of the original drawings and page 14 lines 2-5 of the original specification.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 8 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation of "the service" in line 2. There is insufficient antecedent basis for this limitation in the claim. Note that it is not clear whether "the service" is referring to "a first service" in claim 1, line 3, or "a service" in claim 1, lines 5-6.

Claim 15 recites the limitation of "a first service" in line 2. Claim 15 depends from claim 9. It is unclear whether this "a first service" is the same as the one in claim 9.

10. Claims 16 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted step is: if the requested



service is not in the list of services. This step is essential, see Figure 5A steps 512 and 515 of the original drawings and page 14 lines 2-5 of the original specification.

***Claim Rejections - 35 USC § 101***

11. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12. Claims 16, 24, and 26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 16 is rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to particular machine, or (2) transform underlying subject matter (such as an article or material) to a different state or thing. See page 10 of In Re Bilski 88 USPQ2d 1385. The instant claim is neither positively tied to a particular machine that accomplishes the claimed method steps nor transform underlying subject matter, and therefore do not qualify as a statutory process. The method including steps of "receiving a request for a service", "accessing a list of services offered by a set of virtual machines", "determining if the requested service is in the list of services", and "if the requested service is in the list of services..." is broad enough that the claim could be completely performed mentally, verbally or without a machine nor is any transformation apparent. Claims 24 and 26 depend



on claim 16. The claims are being rejected as not falling within one of the four statutory categories of invention.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1-3, 5-17, 24, 27-28, 35, and 38-49 are rejected under 35 U.S.C. 102(e) as being anticipated by Bulson et al. (US 2005/0060704 A1, hereinafter Bulson).

Regarding claim 1, Bulson discloses a service apparatus implemented in a machine, comprising:

a service request receiver to receive a request for a first service [FIG. 3 and para. 0028, STEP 314];

a storage [para. 0021, "a node is a mainframe computer based on the S/390 Architecture or z/Architecture offered by International Business Machines Corporation"];

a set of virtual machines stored in the storage, each virtual machine to implement a service [FIG. 2A, and para. 0023, 0029];

a service manager to manage the set of virtual machines [FIG. 2A and para. 0024, Manager VM]; and



a transmitter to return an access to the first virtual machine in the set of virtual machines as a response to the request for the first service [para. 0037, “the manager virtual machine returns a handle (e.g., an identifier) of the job virtual machine to the job management service, so that the job management service can communicate directly with the job virtual machine”].

Regarding claim 2, Bulson discloses a service apparatus according to claim 1, wherein: the service apparatus further comprises:

a database of service provider data [para. 0023, a node includes a plurality of virtual machines; para. 0049, one or more applications]; and an image constructor to use the database to construct an image [para.

0029, “one or more of the job virtual machines are not predefined, but instead, are defined when needed”; para. 0043, “placing the job virtual machine back to its original image” during clean-up implies installing the image for the new virtual machine to begin with]; and

the service manager is operative to install the image as the first virtual machine in the set of virtual machines [para. 0029, “one or more of the job virtual machines are not predefined, but instead, are defined when needed”; para. 0043, “placing the job virtual machine back to its original image” during clean-up implies installing the image for the new virtual machine to begin with].



Regarding claim 3, Bulson discloses a service apparatus according to claim 1, wherein:

the service apparatus further comprises a database of images [para.

0023, a node includes a plurality of virtual machines; para. 0049, one or more applications]; and

the service manager is operative to install a first image from the database of images as the first virtual machine in the set of virtual machines

[para. 0029, "one or more of the job virtual machines are not predefined, but instead, are defined when needed"; para. 0043,

"placing the job virtual machine back to its original image" during clean-up implies installing the image for the new virtual machine to begin with].

Regarding claim 5, Bulson discloses a service apparatus according to claim 1, further comprising a deleter to delete the virtual machine [abstract, "The controlling virtual machine manages the start-up, provision of resources, and the shut-down of the on-demand virtual machine"] .

Regarding claim 6, Bulson discloses a service apparatus according to claim 1, the service manager including a table stored in the storage, the table to indicate a state for each virtual machine in the set of virtual machines [para. 0025, "During processing of the request, the job virtual machine communicates directly with the job management service to provide status and/or results"].



Regarding claim 7, Bulson discloses a service apparatus according to claim 1, further comprising a list of services offered by the service apparatus, the list of services to include at least the services offered by each virtual machine in the set of virtual machines [para. 0029, "While one or more job virtual machines are predefined in this embodiment to minimize time in activating a virtual machine, in other embodiments, one or more of the job virtual machines are not predefined, but instead, are defined when needed"].

Regarding claim 8, Bulson discloses a service apparatus according to claim 1, wherein at least one of the virtual machines implements the service and a second service [para. 0029, "While one or more job virtual machines are predefined in this embodiment to minimize time in activating a virtual machine, in other embodiments, one or more of the job virtual machines are not predefined, but instead, are defined when needed"].

Regarding claim 9, Bulson discloses a system, comprising:

- a network [FIG. 1];

- a service request receiver to receive a request for a first service [FIG. 3 and para. 0028, STEP 314.];

- a list of services offered [FIG. 2A, and para. 0023; para. 0029, "While one or more job virtual machines are predefined in this embodiment to minimize time in activating a virtual machine, in other embodiments, one or more of the job virtual machines are not predefined, but instead, are defined when needed"];



a service manager to manage the set of virtual machines [FIG. 2A and para. 0024, Manager VM]; and

a transmitter to return an access to the first virtual machine in the set of virtual machines as a response to the request for the first service [para. 0037, "the manager virtual machine returns a handle (e.g., an identifier) of the job virtual machine to the job management service, so that the job management service can communicate directly with the job virtual machine"].

Regarding claim 10, Bulson discloses a system according to claim 9, further comprising a client machine coupled to the network, the client computer to send the request [FIG. 1, User Workstation 102].

Regarding claim 11, Bulson discloses a system according to claim 9, further comprising at least one server farm machine [FIG. 2A, nodes 200], each server farm machine including:

a storage [para. 0027, virtual storage, file system space]; and

at least one virtual machine from the set of virtual machines, stored in the storage of the server farm machine, each virtual machine to implement a service [para. 0023, a node includes a plurality of virtual machines; para. 0049, one or more applications].

Regarding claim 12, Bulson discloses a system according to claim 9, further comprising a list of services offered by the system, the list of services to include at least the services offered by each virtual machine in the set of virtual machines



[FIG. 2A, and para. 0023; para. 0029, "While one or more job virtual machines are predefined in this embodiment to minimize time in activating a virtual machine, in other embodiments, one or more of the job virtual machines are not predefined, but instead, are defined when needed"].

Claim 13 is of the same scope as claim 1. It is rejected for the same reason as claim 1.

Regarding claim 14, Bulson discloses a system according to claim 9, further comprising:

- a service apparatus, the service apparatus to include the service request receiver [FIG. 3 and para. 0028, STEP 314.] and the transmitter [para. 0037, "the manager virtual machine returns a handle (e.g., an identifier) of the job virtual machine to the job management service, so that the job management service can communicate directly with the job virtual machine"];

- at least one server farm machine [FIG. 2A, nodes 200], each server farm machine to include:

- a storage [para. 0027, virtual storage, file system space]; and

- at least one virtual machine from the set of virtual machines, stored in the storage of the server farm machine, each virtual machine to implement a service [para. 0023, a node includes a plurality of virtual machines; para. 0049, one or more applications]; and

- a management machine, the management machine to include the service manager [FIG. 2A, Job management service and manager VM].



Claim 15 is of the same scope as claim 8. It is rejected for the same reason as claim 8.

Regarding claim 16, Bulson discloses a method, comprising:

receiving a request for a service [FIG. 3 and para. 0028, STEP 314];

accessing a list of services offered by a set of virtual machines [para.

0029, "While one or more job virtual machines are predefined in this embodiment to minimize time in activating a virtual machine, in other embodiments, one or more of the job virtual machines are not predefined, but instead, are defined when needed"];

determining if the requested service is in the list of services [para. 0029, predefined job virtual machines]; and

if the requested service is in the list of services:

determining a plurality of virtual machine offering the requested service [para. 0029, predefined job virtual machines];

selecting one of the plurality of virtual machines [para. 0029, STEP 316, "the manager virtual machine activates a job virtual machine"]; and

returning an identifier for the selected virtual machine offering the requested service [para. 0037, STEP 322].

Regarding claim 17, Bulson further discloses if the requested service is not in the list of services:

creating an image for a new virtual machine that offers the requested service [para. 0029, "one or more of the job virtual machines are not



predefined, but instead, are defined when needed"; para. 0043, "original image");

installing the image for the new virtual machine [para. 0029, "one or more of the job virtual machines are not predefined, but instead, are defined when needed"; para. 0043, "placing the job virtual machine back to its original image" during clean-up implies installing the image for the new virtual machine to begin with]; and

returning an identifier for the new virtual machine [para. 0037, STEP 322].

Regarding claim 24, Bulson discloses a method according to claim 16, wherein:

determining the virtual machine offering the requested service includes:  
determining that a new virtual machine should offer the requested service [para. 0029, "one or more of the job virtual machines are not predefined, but instead, are defined when needed"];

creating an image for the new virtual machine; and installing the image for the new virtual machine [para. 0029, "one or more of the job virtual machines are not predefined, but instead, are defined when needed"; para. 0043, "placing the job virtual machine back to its original image" during clean-up implies installing the image for the new virtual machine to begin with];

returning an identifier for the virtual machine includes returning an identifier for the new virtual machine [para. 0037].



Claim 27 is of the same scope as claim 16. It is rejected for the same reason as for claim 16.

Claim 28 is of the same scope as claim 17. It is rejected for the same reason as for claim 17.

Claim 35 is of the same scope as claim 24. It is rejected for the same reason as for claim 24.

Regarding claim 38, Bulson further discloses wherein the first virtual machine does not implement the second service [para. 0029, "While one or more job virtual machines are predefined in this embodiment to minimize time in activating a virtual machine, in other embodiments, one or more of the job virtual machines are not predefined, but instead, are defined when needed"].

Claim 39 is of the same scope as claim 38. It is rejected for the same reason as for claim 38.

Regarding claim 40, Bulson further discloses wherein:

accessing a list of services offered by a set of virtual machines includes accessing the list of services offered by the set of virtual machines, the list of services including at least the requested service and a second service [para. 0028, STEP 310; para. 0029, "While one or more job virtual machines are predefined in this embodiment to minimize time in activating a virtual machine, in other embodiments, one or more of the job virtual machines are not predefined, but instead, are defined when needed"]; and



selecting one of the plurality of virtual machines includes selecting the one of the plurality of virtual machines offering the requested service and not offering the second service [para. 0028, STEP 314; para. 0029, "While one or more job virtual machines are predefined in this embodiment to minimize time in activating a virtual machine, in other embodiments, one or more of the job virtual machines are not predefined, but instead, are defined when needed"].

Claim 41 is of the same scope as claim 40. It is rejected for the same reason as for claim 40.

Regarding claim 42, Bulson further discloses wherein the service manager is operative to select a first virtual machine from a plurality of virtual machines offering the first service responsive to the first service in the request [para. 0029, STEP 316, "the manager virtual machine activates a job virtual machine"].

Regarding claim 43, Bulson further discloses wherein the set of virtual machines includes a second virtual machine that does not implement the first service [para. 0028, STEP 314; para. 0029, "While one or more job virtual machines are predefined in this embodiment to minimize time in activating a virtual machine, in other embodiments, one or more of the job virtual machines are not predefined, but instead, are defined when needed"].

Claims 44, 46, and 48 are of the same scope as claim 42. They are rejected for the same reason as for claim 42.

Claims 45, 47, and 49 are of the same scope as claim 43. They are rejected for the same reason as for claim 43.



***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. Claims 4, 26, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bulson as applied to claim 1.

Regarding claim 4, Bulson discloses a service apparatus according to claim 1, but silent about further comprising an archiver to archive the virtual machine. Official Notice is taken for archiving the virtual machine, which is a well known technique in resource management. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to try to archive the virtual machine for the purpose of saving memory by swapping inactive virtual machines out of the processor and active memory, thereby those virtual machine can be restored without re-instantiation.

Regarding claim 26, Bulson discloses the invention except for determining if the virtual machine is archived and if the requested machine is archived, activating the virtual machine. Official Notice is taken for determining if the virtual machine is archived and if the requested machine is archived, activating the virtual machine, which is a well known technique in resource management. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to try to determine if the virtual machine is archived and if



the requested machine is archived, activating the virtual machine for the purpose of saving memory by swapping inactive virtual machines out of the processor and active memory, thereby those virtual machines can be restored without re-instantiation.

Claim 37 is of the same scope as claim 26. It is rejected for the same reason as for claim 26.

17. Claims 20-23, and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bulson as applied to claim 16, in view of Ottati (US 6,704,764 B1, hereinafter Ottati).

Regarding claim 20, Bulson and Ottati further disclose selecting one of a set of machines to support the new virtual machine and installing the image for the new virtual machine in the selected machine (one must make decision what machines to install before installing an image that).

Regarding claim 21, Bulson and Ottati disclose the claimed invention except for wherein selecting one of a set of machines includes selecting the selected machine to balance loads on the machines in the set of machines. However, Ottati teaches load balancing in a distributed system [abstract]. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize system performance by load balancing the set of machines.

Regarding claim 22, Bulson and Ottati further disclose wherein creating an image includes selecting a combination of software packages that define the new virtual machine to offer the requested service [In order to create an image on the



fly, one must have a plurality of software packages ready and must select a combination of software packages that define the new virtual machine to offer the requested service].

Regarding claim 23, Bulson and Ottati disclose the claimed invention except for creating an image includes copying the image for the new virtual machine from a set of pre-constructed images. It would have been obvious to one of ordinary skill in the art at the time the invention was made to copy the image for the new virtual machine from a set of pre-constructed images for the purpose of re-using existing software images, thereby saving operating cost.

Claim 31 is of the same scope as claim 20. It is rejected for the same reason as for claim 20.

Claim 32 is of the same scope as claim 21. It is rejected for the same reason as for claim 21.

Claim 33 is of the same scope as claim 22. It is rejected for the same reason as for claim 2.

Claim 34 is of the same scope as claim 23. It is rejected for the same reason as for claim 23.

18. Claims 18-19 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bulson, in view of Ottati and Bulson as applied to claim 17, and further in view of Edstrom et al. (US 2002/0013827 A1, hereinafter Edstrom).

Regarding claim 18, Bulson-Ottati-Bulson disclose a method according to claim, but are silent about further comprising adding the requested service to the



list of services. However, Edstrom teaches adding the desired service to a list of subscribed-to services [para. 0102, lines 14-17]. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the requested service to the list of services for the purpose of providing faster and more efficient services in the future by updating the service list.

Regarding claim 19, Bulson-Ottati-Bulson-Edstrom further disclose wherein adding the requested service includes identifying the new virtual machine in the list of services as offering the requested service [In order to add the requested service to the list of services, one must identify the new virtual machine in the list of services as offering the requested service first. Afterward, it doesn't make sense to add a service without the support of the corresponding virtual machine].

Claim 29 is of the same scope as claim 18. It is rejected for the same reason as for claim 18.

Claim 30 is of the same scope as claim 19. It is rejected for the same reason as for claim 19.

### ***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objection made. Applicant must show how the amendments avoid such references and objections. See 37 CFR 1.111(c).



20. Nageswaran, US Patent Number 5,991,792, has taught a method dynamically managing a thread pool of reusable threads in a computer system.
21. Prokop et al., US Patent Number 5,170,340, has taught a **plurality of discrete job processing virtual machines with each of the virtual machines having at least one service associated with it for implementing the virtual machine.**

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Lai whose telephone number is (571) 270-3236. The examiner can normally be reached on M-F 8:30 - 5:00 EST.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael C. Lai  
08MAY2009

/YVES DALENCOURT/  
Primary Examiner, Art Unit 2457